State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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December 16, 1999

Lon Thomas
American Stone, Inc.
4040 South 300 West
Salt Lake City, Utah 84107

Re: 2nd Review of Notice of Intention to Commence Large Mining Operations, American Stone, Inc., Peoa Blonde Quarry, M/043/012, Summit County, Utah

Dear Mr. Thomas:

The Division has completed a review of your response to the Division's March 11, 1999 review of your Notice of Intention to Commence Large Mining Operations (NOI) for the Peoa Quarry, located in Summit County, Utah. The revised plan was received October 27, 1999. After reviewing the information, the Division has the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion.

The Division will suspend further review of the Peoa Quarry permit application until your response to this letter is received. If you have any questions in this regard please contact me, Lynn Kunzler, Tom Munson or Doug Jensen of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Review
cc: Mary Ann Wright, DOGM
M43-12 rvw2

REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

American Stone, Inc.
Peoa Quarry
M/043/012

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance

Maps 3, 4, 5 and 7 do not accurately depict all the current mining related disturbance. Attached is a digitized map which resulted from the Division's GPS survey. It has been overlaid on the proposed life of mine area. This map may be used as the base map to correct Maps 3, 4, 5, and 7. (LK)

Map 5 (final reclamation) does not show any reclamation treatments for an area of approximately 2.5 acres. This area is shown on the Variance Map (Map 7) for a commercial storage area. Please refer to comments under R647-4-112 regarding this variance. (LK)

R647-4-106 - Operation Plan

106.3 Estimated acreage disturbed, reclaimed, annually.

The estimated acreage to be disturbed annually has been exceeded significantly for the last two years. In order to reduce the likelihood of a future non-compliance circumstance (from exceeding the permitted and bonded disturbed acreage), we have used the total proposed life of mine acreage for processing this permit application. The life of mine acreage was measured and totals 24.3 acres (which includes one acre of access road that will remain for post mining access). (LK)

106.5 Existing soil types, location, amount

Soil data provided demonstrates that the soils are suitable for reclamation. Soil descriptions indicate a soil depth ranging from 6 to 40 inches. It is apparent from the soil description that a minimum of six inches of soil would be available over the entire site. It is likely that more than 12 inches of salvageable soil is available for reclamation. Recent site inspections of the area show that salvageable soil materials exist (three topsoil stockpiles were observed during the last inspection). However, it was also evident that not all soil material is being salvaged (as observed along the toe of the waste dumps). The operator needs to salvage all available topsoil before creating and using a disturbed area. This may require additional areas for topsoil storage. Also, please provide an estimate of the amount of soil in each of the three existing stockpiles. (LK)

106.6 Plan for protecting & redepositing soils

The Notice indicates that 6 - 12 inches of soil will be salvaged from the quarry and dump areas and would be added to the appropriate stockpiles shown on Map 3.2. Map 3.2 was not submitted. As noted above, topsoil salvaging apparently is not occurring on all areas identified in the application. It is unlikely that the three stockpile areas shown on map 4 are large enough to store the volume of soil that would be generated from salvaging soils on the remaining areas to be disturbed during the life of operations (7.4 acres undisturbed X average nine inch salvage depth = 8,954 cubic yards of soil material. With an average four-foot

stockpile depth, this would take approximately 1.4 acres for the stockpile). Additional area(s) will probably need to be identified for topsoil storage. (LK)

The application does not identify how topsoil stockpiles will be protected during operations. At a minimum, they need to be revegetated and marked with signs that identify them as topsoil stockpiles and that they are not to be disturbed. (LK)

106.7 Existing vegetation - species and amount

The response contained a brief description of the vegetation sampling. Apparently basal area was measured and provided rather than ground cover (canopy cover). No correlation between basal cover and ground cover was provided. As stated in the previous review, 19.5% vegetation cover is not accurate (expected range between 45% and 60% or higher). The Species list is acceptable. A new vegetation survey will need to be conducted next June to establish the revegetation success standard for this project. (LK)

106.8 Depth to groundwater, extent of overburden, geology

The plan fails to adequately address protection of water sources in terms of ground water protection as requested in the first review. There wasn't any discussion regarding cleanup of oil spills or other measures to protect the source of any groundwater. The Division of Drinking Water in the Department of Environmental Quality may require that a Plan Approval and a Source Water Protection Plan Approval be completed for the public drinking water application of spring water. The person who needs to be contacted regarding this approval is Mike Georgeson who works for the Division of Drinking Water at 801-536-4197. If the Operator successfully obtains this plan approval and provides this information to the Division then this rule will be satisfied. (TM)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.15 Constructing berms, fences, etc. above highwalls

Safety berms will be needed on the highwall of the main pit due to the proximity of the access road. These berms will need to be placed as this pit develops to protect both the public and people working in this area. (DJ)

107.2 Drainages to minimize damage

The operator has failed to describe what he intends to do during operations to avoid or minimize environmental damage to the larger drainage to the East, which will be blocked by a pad of waste rock. What will become of this drainage following mining? Will it be permanently diverted and, if so, how will the diversion be sized (what design storm criteria)? (TM)

107.5 Suitable soils removed & stored

Please refer to section R647-4-106.5 and 106.6. (LK)

107.6 Concurrent reclamation

The area shown on Map 4 as concurrent reclamation does not meet reclamation success standards (as observed during the Division's recent inspections). Until reclamation success is achieved, this area will still be considered part of the affected and bonded mining operations disturbed area. (NOTE: *vegetation success is evaluated after a minimum of three growing seasons. If continued impacts to this area (i.e. driving over it) continue to occur, it is unlikely success will be achieved without re-applying reclamation treatments of ripping and seeding. It is suggested that this area be fenced off (or otherwise isolated) and signed as a reclamation area to protect it from future impacts*). (LK)

R647-4-109 - Impact Assessment

General comment: While the Division concurs that the surface impacts from this operation will be minor, this section of the permit application needs to be corrected to correctly show the distance to housing developments. As pointed out in the last review, there is housing within one mile of the site (not the two miles stated). The town of Peoa is about two miles away, not nine miles away as stated in the application. Current disturbance is about 17 acres with an expected life of mine disturbance of 24.3 acres (not 13 acres of current disturbance as stated in the application). (LK)

109.1 Impacts to surface & groundwater systems

This rule has not been adequately addressed due to the lack of information regarding impacts to surface and groundwater both during the operational phase of mining and post mining. The operator still needs to provide a Source Water Protection Plan for drinking water. The proposed surface water handling/management plan during operations and post mining is too vague or nonexistent. Blocked drainages and disturbed area storm water drainage leaving the site is a concern that needs to be addressed, both during operations and during reclamation. The pond that will be left in place following reclamation will need to be described from a contributing watershed area basis. What is the size of the drainage area (disturbed and undisturbed) contributing to the pond? (TM)

109.3 Impacts on existing soils resources

There have been impacts on the soil resources within the permit area. Not all soils have been salvaged (prior to surface disturbance), so there will be a loss of soil materials. Please refer to Sections R647-4-106.5 and 106.6 for details. Please correct this section of the application. (LK)

109.4 Slope stability, erosion control, air quality, safety

The plan does not include the requested air quality permit from the Division of Air Quality. The statement that DOGM participated in a meeting in which a determination was made that this permit is not necessary is in error. DOGM does not make this type of decision; this would be determined by the Division of Air Quality. This statement needs to be removed from the application. The crusher capacity was stated in the permit to be 20 tons/hour, but a statement provided by DBS Consulting, dated January 5,1999, states that the crusher is rated at "approximately 25 tons/hour. Please clarify this difference. (DJ)

109.5 Actions to mitigate any impacts

The application indicates that fines salvaged from the operation and a topsoil borrow area will be used to mitigate the loss of soil resources. The Division's last review requested that a soil sample be taken from the proposed borrow area to show that the soil materials would be suitable for reclamation. To date, the Division has not received the analysis for the proposed borrow materials. The application states that soil resources will be spread at an approximate depth of 2 inches. Please refer to R647-4-110.5.11 for additional discussion. (LK)

R647-4-110 - Reclamation Plan

110.1 Current & post mining land use

The application identifies grazing and wildlife habitat as the current and post mining land use. In addition, the post mining land use identifies building a residence and development of a commercial storage area. If housing and commercial storage are implemented before reclamation success of the entire site is achieved, these land uses will need to be approved by Summit County. A copy of the appropriate County permits would need to be submitted to the Division. Since this has not yet been provided, the Division is assuming full reclamation of the entire mine site (with the exception of a 12-foot wide road used to access the property = @ one acre of disturbance). (LK)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

The Division is concerned with the proposed highwalls contained in this application. We question the stability of the ultimate highwall, which will be 80 feet high and stand at a 70 degree angle. It is possible that the inclusion of catch benches into the plan could alleviate some of this concern. These bench features would also reduce the overall slope angle, which would be beneficial to the operator during closure. (DJ)

110.3 Description of facilities to be left (post mining use)

With the exception of a 12-foot wide access road (as shown on Map 7), the application does not provide justification for leaving the two trailers (currently approved as temporary housing structures for employees by the County), the scale house and office building, or a commercial storage area. As discussed under Section R647-4-110.1, the Division will require full reclamation of these facilities unless they are approved and permitted for post mining land use by Summit County. (LK)

110.5 Revegetation planting program

The application states that a two inch thick mixture of stockpiled and borrowed soil materials will be spread over the dumps and quarry area. This is not adequate. Since the soil resources survey identified 6 to 12 inches of topsoil, and the application does not request or justify a variance from salvaging topsoil, a minimum of six inches will be required for reclamation over all disturbed areas. At a six inch topsoil replacement depth, it will also be necessary to amend the soil material with a minimum five tons of composted manure per acre to help assure revegetation success. (LK)

It is suggested that areas be ripped (along the contour) to a one-foot depth (maximum ripper spacing of two feet) after topsoil is applied and immediately prior to seeding, with the surface area being left in a very rough condition. This will leave a better seedbed than scarifying the area with the loader teeth after seeding. (LK)

From the soil analysis provided, the Division concurs that adding additional fertilizer (nitrogen, phosphorus and potassium) is not required. However, the soil materials should be re-analyzed just prior to reclamation to assure fertilization is still not needed for reclamation success. (LK)

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare

1.15 Constructing berms/fences above highwalls

As stated in Rule 647.107.1.15, berms should be placed to protect both the public and the site workers. (DJ)

111.11 Structures & equipment buried or removed

As discussed under Section R647-4-110.1, the Division will require full reclamation of all the surface facilities and affected areas (except the access road) unless they are approved and permitted for an alternate post mining land use by Summit County. (LK)

111.12 Topsoil redistribution

As discussed under Section R647-4-110.5, the Division will require a minimum of six inches of topsoil amended with five ton per acre of composted manure for reclamation. An acceptable alternative to amending the soil would be to salvage and/or borrow sufficient soil material to respread a minimum of 12 inches of soil over all disturbed areas. (LK)

R647-4-112 - Variance

The application contains requests for three variances. While the rule citation was not provided, the variances are discussed below with the appropriate rule citation.

1. A variance was requested from Rule R647-4-111.8, Reclamation of all Roads. Map 7 shows one road to remain for post mining access to the operator's private property. There are no other roads in the adjacent areas. The Division concurs that a 12-foot wide road for accessing the property is appropriate. This variance *is approved. (LK)*

2. A variance was requested from Rule R647-4-111.8, Reclamation of pads. Map 7 identifies an area currently used for storing pallets and rock to remain for a commercial storage area. No justification was provided for this variance. Before the Division can approve this

requested variance, the operator will need to provide a copy of the approved special use permit from Summit County for the proposed commercial use. Until this is received, the Division will require reclamation of this area. This requested variance *is denied*. (LK)

3. A variance was requested from Rule R647-4-111.11, Removal of structures. The operator wants to leave a small camp which includes the two trailers. At the present time, Summit County has approved the two trailers under a Temporary Use Permit for employee housing. Until the County approves these structures for permanent use after cessation of mining operations, we cannot approve of this alternative land use. The operator has also requested that the scale and office building remain for use in conjunction with the proposed commercial storage area (variance #2). As previously stated, this use must be approved by Summit County before the Division can consider allowing these structures to remain for the proposed post mining land use. This requested variance *is denied*. (LK)

R647-4-113 - Surety

The following notes explain changes made to the reclamation cost estimate submitted by American Stone. The unit costs have changed on the estimate due to the recent updating of costs in the Means Rental Rate Blue Book. (DJ)

Please Note: **We believe that the costs as presently reflected in this reclamation surety estimate could be reduced significantly by making a few changes to the proposed mining and reclamation plan. We would be pleased to sit down and discuss some possible alternatives with you at your convenience.**

Our estimate is based upon reclamation of the entire site (24.3 acres), less the one acre for roads to be used after mining has ceased. The present county permit for this area calls for the reclamation of the entire site with no allowances for future commercial ventures, presently only the ranch road (one acre) has been removed from the reclamation liability by DOGM. (DJ)

(Lines 23 thru 27) Because all the site will potentially be reclaimed, removal of the scales building and trailers associated with the operation will need to be demolished or removed from the site. This is reflected by the inclusion of demolition cost for these activities.

(Line 31) The total area encompassed by waste dumps is noted in the plan as 8.2 acres. Only 2.0 acres are shown as a part of the regrading effort, leaving the remaining waste dump surface (5.6 acres) to be ripped prior to placement of soils.

(Line 34) This 10 acre parcel is the remaining portion of the site which will require ripping prior to any seeding efforts. Ripping of the site will be necessary to provide a suitable habitat for the seeding and also provide a horizon to trap any moisture that may fall on the site, which will in turn enhance reclamation and revegetation efforts.

(Line 37) Safety berms have been included because of the proximity of the access road to an 80 foot highwall, these will need to be in place until regrading of the highwall is completed and the hazard is eliminated.

(Line 38) This is the calculated amount of material required to reduce the projected 80' X 1300' X 70 degree slope to an overall slope of 45 degrees. A mining plan leaving a 10' catch bench for every bench mined (10 foot lift as described in the application) would result in an overall slope of 45 degrees without having to regrade highwalls on closure. A variance could also be obtained to eliminate this area from the topsoiling requirement.

(Line 42) Two drainages will need to be restored on closure, each would need to be approximately 350' long.

(Line 43) The plan, as submitted, states that these drainages would be armored.

(Line 46) To cover the site with six inches of topsoil will require 18,000 CY of material. (22.3 acres, the 1 acre borrow area should not require additional soil). This is calculated using a front-end loader and truck as specified in the operator's proposed plan. Use of a scraper to accomplish this effort would reduce this amount significantly.

(Line 47) Because a cover of six inches of soil is marginal for successful revegetation, a soil amendment of composted manure at a rate of five tons/acre has been added.

(Line 51) Seeding required for the entire site.

Attachment: digitized map

RECLAMATION SURETY ESTIM

American Stone last revisi **10/12/98**

Peoa Blonde

M/043/012 *Summit*

Prepared by Utah State Division of Oil, Gas & Mining

Surety was calculated on the basis of 23.3 acres, one acre was allowed for an internal road to remain as access to home located below site.
Topsoil placement was calculated at 6" to be placed over the entire site. Because there was only an allowance for this amount of soil, soil amendments were added to assure sufficient nutrients for growth.
Because no variance was allowed for the "commercial storage area", all buildings *are to* be removed.

Note: actual unit costs may vary according to site conditions ***08/25/99***

-Amount of disturbed area which will receive reclamation treatments = 23.3 **acres**

-Estimated total disturbed area for this mine = 24.3 **acres**

Activity	Quantity	Units	$/unit	$	Note
Safety gates, signs, etc. (mtls & installation)	0	sum	200	0	(1)
Demolition of buildings & facilities	50	CF	*0.25*	13	*(2)*
Debris & equipment removal - trucking	1	trips	*48*	48	*(3)*
Debris & equipment removal - dump fees	10	ton	*55*	550	*(4)*
Debris & equipment removal - loading trucks w/FE loader	3	hours	*176*	528	*(5)*
Demolition & debris removal - general labor	5	hours	*15*	75	*(6)*
Regrading facilities areas (1 ft depth)	4.0	acre	470	1,880	(7)
Regrading waste dump slopes (2.0 ac X 3 ft deep)	12,500	CY	0.47	5,875	(8)
Ripping waste dump tops	6.2	acre	220	1,364	(9)
Ripping stockpile & compacted areas	2.8	acre	220	616	(9)
Ripping Site Prior to Seeding	10	acre	220	3,960	(9)
Ripping pit floors prior to soil placement	3.0	acre	220	660	(9)
					(9)
Creating safety berms or barriers around highwalls	850	LF	0.15	128	(10)
Pit Resloping	21,200	CY	0.47	9,964	
					(9)
Regrading access roads - dozer	2.0	acre	470	940	(7)
					(11)
Surface drainage restoration or construction	700	LF	0.15	105	(10)
Armor Drainages	20	hours	15	300	
					(12)
					(13)
Topsoil replacement - truck & FE loader	18000	CY	2.55	45,900	(14)
Soil Amendment/ Composted Manure (5 ton/acre)	23.3	acre	100	2,330	
Mulching (2 ton/acre alfalfa)					*(00)*
Fertilizing (100 lb/acre diammonium phosphate)					*(00)*
Composted manure (10 ton/acre)					*(00)*
Broadcast seeding	23.3	acre	*170*	3,961	*(00)*
Hydroseeding					*(00)*
General site cleanup & trash removal	10.0	acre	*50*	500	*(00)*
Equipment mobilization	2	equip	*1000*	1,600	*(00)*
Reclamation Supervision	6	days	*372*	2,232	*(15)*
		Subtotal		83,528	
10% Contingency				8,353	
		Subtotal		$91,881	
Escalate for 5 years at 3.27% per yr				16,038	
		Total		$107,918	
Rounded surety amount in yr 2004-$				**$107,900**	
Average cost per disturbed acre =	$4,440				

GENERIC RECLAMATION ESTIMATE

American Stone

Peoa Blonde

M/043/012 *Summit*

last revision 12/01/97

Prepared by Utah State Division of Oil, Gas & Mining

last unit cost update *********

Note	
(1)	DOGM lump sum assumed
(2)	Means Heavy Construction Cost Data 1998, 020-604-0100, mixture of bldg. types, average, excluding dump fees
(3)	Means 1998, 020-620-5100, $0.48/mile for >8CY truck; assumed 100 miles round trip
(4)	Means 1998, 020-612-0100, dump charges, typical urban city, tipping fees only, bldg construction mtls
(5)	Rental Rate Blue Book 4/98, Cat 988B, 7CY, & Means 1998, Crew B-10U, loading trucks only
(6)	DOGM assumed wage for unskilled general labor
(7)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
(8)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, mtl 2550 lb/CY, 100 ft push
(9)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, multi shank rippers, speed 1.0 mph
(9)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, multi shank rippers, speed 1.0 mph
(9)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, multi shank rippers, speed 1.0 mph
(9)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, multi shank rippers, speed 1.0 mph
(10)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, avg vol 0.5CY/LF-berm assumed
(9)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, multi shank rippers, speed 1.0 mph
(7)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
(11)	Contractor's actual costs, 1991 at E/053/012, Cat 225 Excavator, 20 ft wide road
(10)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, avg vol 0.5CY/LF-berm assumed
(12)	Means 1998 & Rental Rate Blue Book 4/98: Cat D8N, U, mtl 2550 lb/CY, 100 ft push
(13)	Means 1998 & Rental Rate Blue Book 4/98: Cat 627F P-P, mtl 2550 lb/CY, 2,000 ft haul one-way, grade +/- 4%,
(14)	Means 1998 022-266-2030: hauling excavated or borrow material, off highway hauler, 22 CY, 1 mile round trip
(00)	DOGM general estimate - mulching
(00)	DOGM general estimate - fertilizing
(00)	DOGM general estimate - manure $16/ton delivered, $14/acre spreading
(00)	DOGM general estimate - broadcast seeding
(00)	DOGM general estimate - drill seeding
(00)	DOGM general estimate - hydroseeding
(00)	DOGM general estimate - site cleanup & trash removal
(00)	DOGM general estimate - equipment mobilization
(15)	Means 1998, 010-036-0180, project manager, minimum $1,815/wk